Notice of Allowability	Application No.	Applicant(s)
	10/708,342	COMBS ET AL.
	Examiner	Art Unit
	Esaw T. Abraham	2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amdt filed on 12/12/06*.

2. ☒ The allowed claim(s) is/are *1-26*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

Examiner's statement for reason for allowance

1.   Claims **1-26** have been allowed.

The following is an examiner's statement for allowance:

As per claim 1:

The prior art of record, Weller (U.S. PN: 6,870,388) teach a scheme is disclosed

for testing an electrical device to determine a range of combinations of values of N

parametric variables, i.e., a SHMOO plot, for which the device functions properly.

Further, Weller teaches a method comprises defining an N-dimensional plot region

comprising a plurality of operating points each corresponding to a particular combination

of values of the N parametric variables. The plot region is successively subdivided into

smaller sub-regions, based on determining whether the electrical device passes or fails

upon testing at each operating point of a predetermined subset of operating points of

the plot region or one of the smaller sub-regions, until a minimum resolution is achieved

(see col. 2, lines 30-42).

The prior art of record, Clinton et al. (U.S. PN: 6,330,697) teach a pass/fail criteria of

the retention time as a function of the p-well voltage for each single cell is determined

typically by running a Shmoo test pattern to create a Shmoo plot. A Shmoo test

monitors a set of patterns of an output of a system under test by varying, incrementally,

individual parameters of the system. Information regarding each of the

different root causes of the single bit faults is acquired by a typical Shmoo plot. Hence,

this first step in the test method facilitates grouping the single bit failures under different

categories and distinguishing between different types of leakage mechanisms and failures of unknown origins (see col. 5, lines 6-17).

However, the prior art taken singly or in combination fail to teach, anticipate, suggest, or render obvious Shmoo memory testing said memory array by incrementing, decrementing or both incrementing and decrementing values of a test parameter until a predetermined minimum or a predetermined maximum value of said test parameter is reached and that utilizes a requires no more than a second number of said total number of fuses for use in repairing said memory array to operate at said predetermined minimum or said predetermined maximum value of said test parameter. Consequently, claim 1 is allowed over the prior art.

Claims **2-9 and 21-23,** which is/are directly or indirectly dependent/s of claim 1 are also allowable over the prior art of record.

As per claim 10:

The prior art of record, Weller (U.S. PN: 6,870,388) teach a scheme is disclosed for testing an electrical device to determine a range of combinations of values of N parametric variables, i.e., a SHMOO plot, for which the device functions properly. Further, Weller teaches a method comprises defining an N-dimensional plot region comprising a plurality of operating points each corresponding to a particular combination of values of the N parametric variables. The plot region is successively subdivided into smaller sub-regions, based on determining whether the electrical device passes or fails upon testing at each operating point of a predetermined subset of operating points of

the plot region or one of the smaller sub-regions, until a minimum resolution is achieved

(see col. 2, lines 30-42).

The prior art of record, Clinton et al. (U.S. PN: 6,330,697) teach a pass/fail criteria of

the retention time as a function of the p-well voltage for each single cell is determined

typically by running a Shmoo test pattern to create a Shmoo plot. A Shmoo test

monitors a set of patterns of an output of a system under test by varying, incrementally,

individual parameters of the system. Information regarding each of the

different root causes of the single bit faults is acquired by a typical Shmoo plot. Hence,

this first step in the test method facilitates grouping the single bit failures under different

categories and distinguishing between different types of leakage mechanisms and

failures of unknown origins (see col. 5, lines 6-17).

However, the prior art taken singly or in combination fail to teach, anticipate,

suggest, or render obvious Shmoo memory testing said memory array by incrementing,

decrementing or both incrementing and decrementing values of a test parameter until a

predetermined minimum or a predetermined maximum value of said test parameter is

reached and that utilizes a requires no more than a second number of said total number

of fuses for use in repairing said memory array to operate at said predetermined

minimum or said predetermined maximum value of said test parameter, saving a first

set of fuse data based on said standard memory testing of said memory array and

saving a second set of fuse data based on said shmoo memory testing of said memory

array and repeating steps all the above steps ((a) through (e)) until all integrated circuit

chips to be tested have been selected. Consequently, claim 10 is allowed over the prior art.

Claims **11-20 and 24-26,** which is/are directly or indirectly dependent/s of claim 10 are also allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weller (U.S. PN: 6,870,388)

Clinton et al. (U.S. PN: 6,330,697)

3.   Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned (571) 273-8300.

Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or PUBLIC PAIR. Status

information for unpublished applications is available through Private Pair only. For more

information about the PAIR system, see http://pair-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Esaw Abraham

Art unit: 2133

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100